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PB-251 772

BLUE RIDGE LAKE, FANNIN COUNTY, GEORGIA

PACIFIC NORTHWEST ENVIRONMENTAL RESEARCH LABORATORY

PREPARED FOR
NATIONAL ENVIRONMENTAL RESEARCH CENTER

JUNE 1975

TECHNICAL REPORT DATA

(Please read Instructions on the reverse before completing)

1. REPORT NO.	2.
3. RECIPIENT'S ACCESSION NO.	
4. TITLE AND SUBTITLE Report on Blue Ridge Lake, Fannin County, Georgia	5. REPORT DATE Prepared June, 1975
	6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) Anonymous (National Eutrophication Survey Staff)	8. PERFORMING ORGANIZATION REPORT NO. Working Paper #284
9. PERFORMING ORGANIZATION NAME AND ADDRESS National Eutrophication Survey U.S. Environmental Protection Agency 200 S. W. 35th St. Corvallis, Oregon 97330	10. PROGRAM ELEMENT NO.
	11. CONTRACT/GRANT NO.
12. SPONSORING AGENCY NAME AND ADDRESS Office of Research and Development U.S. Environmental Protection Agency 401 M Street, S. W. Washington, DC 20460	13. TYPE OF REPORT AND PERIOD COVERED Final - 1973
	14. SPONSORING AGENCY CODE

15. SUPPLEMENTARY NOTES

Prepared in cooperation with the U.S. Environmental Protection Agency, National Environmental Research Center, Las Vegas, Nevada 89114

16. ABSTRACT

Annual total phosphorus and total nitrogen loadings to the lake were estimated and subdivided according to either point or non-point source origin. An assessment of the lake's trophic condition and limiting nutrient is also provided. All data collected by the U.S.E.P.A. National Eutrophication Survey during the one year study of the lake and its tributaries are included in the report.

KEY WORDS AND DOCUMENT ANALYSIS

17. a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
eutrophication lakes nutrients phosphorus nitrogen loading		05B 05C

18. DISTRIBUTION STATEMENT Release unlimited	19. SECURITY CLASS *(This Report)*	21. NO. OF PAGES 46 pp.
	20. SECURITY CLASS *(This page)*	22. PRICE 4.00

EPA Form 2220-1 (9-73)

PB 251 772

U.S. ENVIRONMENTAL PROTECTION AGENCY
NATIONAL EUTROPHICATION SURVEY

WORKING PAPER SERIES

PACIFIC NORTHWEST ENVIRONMENTAL RESEARCH LABORATORY

An Associate Laboratory of the

NATIONAL ENVIRONMENTAL RESEARCH CENTER - CORVALLIS, OREGON

and

NATIONAL ENVIRONMENTAL RESEARCH CENTER - LAS VEGAS, NEVADA

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

70—697-032

113059

REPORT
ON
BLUE RIDGE LAKE
FANNIN COUNTY
GEORGIA
EPA REGION IV
WORKING PAPER No. 284

WITH THE COOPERATION OF THE

GEORGIA DEPARTMENT OF NATURAL RESOURCES

AND THE

GEORGIA NATIONAL GUARD

JUNE, 1975

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FOREWORD

The National Eutrophication Survey was initiated in 1972 in response to an Administration commitment to investigate the nationwide threat of accelerated eutrophication to fresh water lakes and reservoirs.

OBJECTIVES

The Survey was designed to develop, in conjunction with state environmental agencies, information on nutrient sources, concentrations, and impact on selected freshwater lakes as a basis for formulating comprehensive and coordinated national, regional, and state management practices relating to point-source discharge reduction and non-point source pollution abatement in lake watersheds.

ANALYTIC APPROACH

The mathematical and statistical procedures selected for the Survey's eutrophication analysis are based on related concepts that:

a. A generalized representation or model relating sources, concentrations, and impacts can be constructed.

b. By applying measurements of relevant parameters associated with lake degradation, the generalized model can be transformed into an operational representation of a lake, its drainage basin, and related nutrients.

c. With such a transformation, an assessment of the potential for eutrophication control can be made.

LAKE ANALYSIS

In this report, the first stage of evaluation of lake and watershed data collected from the study lake and its drainage basin is documented. The report is formatted to provide state environmental agencies with specific information for basin planning [§303(e)], water quality criteria/standards review [§303(c)], clean lakes [§314(a,b)], and water quality monitoring [§106 and §305(b)] activities mandated by the Federal Water Pollution Control Act Amendments of 1972.

Beyond the single lake analysis, broader based correlations between nutrient concentrations (and loading) and trophic condition are being made to advance the rationale and data base for refinement of nutrient water quality criteria for the Nation's fresh water lakes. Likewise, multivariate evaluations for the relationships between land use, nutrient export, and trophic condition, by lake class or use, are being developed to assist in the formulation of planning guidelines and policies by EPA and to augment plans implementation by the states.

ACKNOWLEDGMENT

The staff of the National Eutrophication Survey (Office of Research & Development, U. S. Environmental Protection Agency) expresses sincere appreciation to the Georgia Department of Natural Resources for professional involvement and to the Georgia National Guard for conducting the tributary sampling phase of the Survey.

Joe D. Tanner, Commissioner of the Department of Natural Resources; J. Leonard Ledbetter, Director of the Environmental Protection Division; Ralph S. Howard, Jr., Environmental Affairs Coordinator; Gene B. Welsh, Chief of the Water Protection Branch; Edward T. Hall, Jr., Unit Coordinator; and Broughton A. Caldwell, R. Marshall Gaddis, William D. Kennedy, and Kenneth W. Martin, Environmental Specialists, provided invaluable lake documentation and counsel during the Survey, reviewed the preliminary lake reports, and provided critiques most useful in the preparation of this Working Paper series.

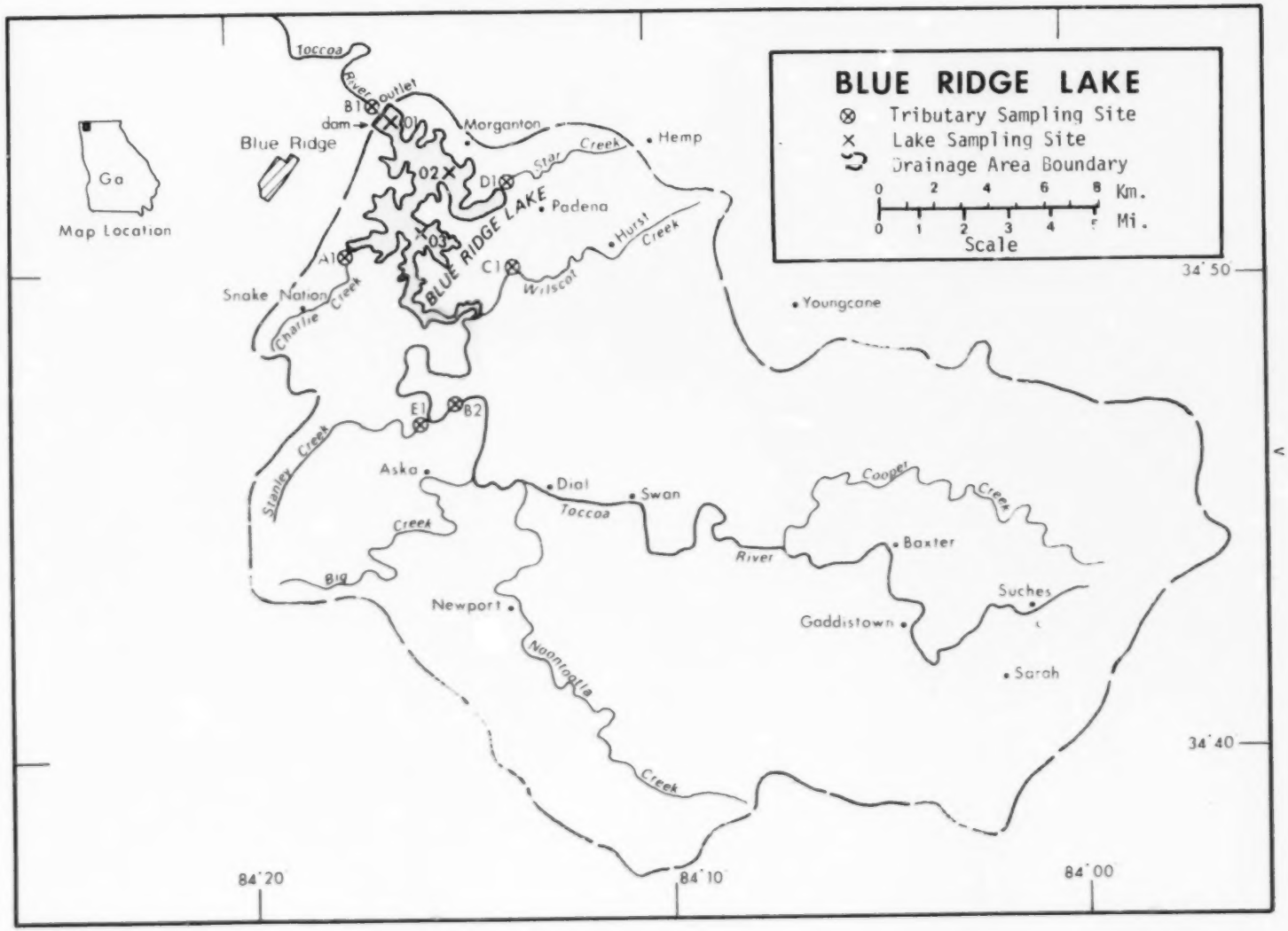
Major General Joel B. Paris, III, then the Adjutant General of Georgia, and Project Officer Lt. Colonel John R. Ranier, who directed the volunteer efforts of the Georgia National Guardsmen, are also gratefully acknowledged for their assistance to the Survey.

NATIONAL EUTROPHICATION SURVEY

STUDY LAKES

STATE OF GEORGIA

LAKE NAME	COUNTY
Allatoona	Bartow, Cherokee, Cobb
Blackshear	Crisp, Dooly, Lee, Sumpter, Worth
Blue Ridge	Fannin
Burton	Rabun
Chatuge	Towns, GA; Clay, NC
Clark Hill	Columbia, Elbert, Lincoln, McDuffie, MWilks, GA; Abbeville, McCormick, SC
Harding	Harris, GA; Chambers, Lee, AL
Hartwell	Franklin, Hart, Stephens, GA; Anderson, Oconee, Pickens, SC
High Falls	Butts, Lamar, Monroe
Jackson	Butts, Jasper, Newton
Nottely	Union
Seminole	Decatur, Seminole, GA; Jackson, FL
Sidney Lanier	Dawson, Forsyth, Gwinnett, Hall, Lumpkin
Sinclair	Baldwin, Hancock, Putnam
Walter F. George	Clay, Quitman, Stewart, GA; Barbour, Henry, Russell, AL


BLUE RIDGE LAKE
Tributary Sampling Site
Lake Sampling Site
Drainage Area Boundary
0 2 4 6 8 Km.
0 1 2 3 4 5 Mi.
Scale
Map Location
Ga
Blue Ridge
Toccoa River outlet
dam
B1
O1
O2
O3
A1
B2
C1
D1
E1
Morganton
Hemp
Star Creek
Padena
Hurst Creek
Wilscot
Youngcane
Snake Nation
Charlie Creek
BLUE RIDGE LAKE
Stanley Creek
Aska
Dial
Swan
Toccoa River
Cooper Creek
Baxter
Suches
Gaddistown
Sarah
Big Creek
Newport
Noontootla Creek
34°50
34°40
84°20
84°10
84°00

BLUE RIDGE LAKE*

STORET NO. 1316

I. CONCLUSIONS

A. Trophic Condition:

Survey data indicate that Blue Ridge Lake is early mesotrophic. Blue Ridge Lake ranked first in overall trophic quality when all 14 Georgia lakes sampled in 1973 were compared using a relative index combining six parameters**. One lake had less median total phosphorus, one had less and two had the same median dissolved phosphorus, one had less median inorganic nitrogen, two had less mean chlorophyll a, and two had greater mean Secchi disc transparency.

Survey limnologists did not note any nuisance lake conditions during sampling visits. However, oxygen depression occurred at stations one and two, and oxygen depletion occurred at station three during periods of thermal stratification.

B. Rate-Limiting Nutrient:

Algal assay results and lake data indicate phosphorus limitation; i.e., the mean inorganic nitrogen to orthophosphorus ratios were 21/1 or greater at all sampling times.

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* Table of metric conversions--Appendix A.
** See Appendix B.

C. Nutrient Controllability:

1. Point sources--There were no known municipal wastewater treatment plants discharging to Blue Ridge Lake during the sampling year. The Chattahoochee National Fish Hatchery discharges to Rock Creek, a tributary of the Toccoa River; however, nutrient contributions from this source are not known.

The present loading rate of 0.91 $g/m^2/yr$ is greater than the rate proposed by Vollenweider (Vollenweider and Dillon, 1974) as an oligotrophic rate but is less than his proposed eutrophic rate; i.e., is a mesotrophic loading rate (see page 14). Unless this loading rate is increased, the excellent trophic condition of Blue Ridge Lake should be maintained.

2. Non-point sources--The Toccoa River accounted for almost 80% of the total phosphorus load reaching Blue Ridge Lake during the sampling year. While this load includes phosphorus discharged from the Chattahoochee National Fish Hatchery, the export rate of 21 $kg/km^2/yr$ does not appear to be unusual as compared to the other tributaries of Blue Ridge Lake (see page 14) or the tributaries of nearby Chatuge Lake* (mean = 22 $kg/km^2/yr$) and Nottely Reservoir** (mean = 20 $kg/km^2/yr$). Also, in a recent Georgia Department of Natural Resources report (Anonymous, 1973), the

* Working Paper No. 286.
** Working Paper No. 291.

Toccoa River was classified as "healthy" at a sampling station near the community of Dial about 12 stream miles below the hatchery. Therefore, it does not appear that the hatchery is a significant phosphorus source, although a more-detailed study would be needed to determine this.

Wilscot Creek contributed 8.1% of the total phosphorus load, and the remaining tributaries ranged from 1.2% to 1.6%. The ungaged tributaries were estimated to have contributed 6.0%.

II. LAKE AND DRAINAGE BASIN CHARACTERISTICS

A. Lake Morphometry†:

1. Surface area: 13.44 kilometers^2.
2. Mean depth: 18.4 meters.
3. Maximum depth: >43.0 meters.
4. Volume: 247.222 x 10^6 m^3.
5. Mean hydraulic retention time: 176 days.

B. Tributary and Outlet:
(See Appendix C for flow data)

1. Tributaries -

Name	Drainage area (km^2)*	Mean flow (m^3/sec)*
Toccoa River	461.0	13.5
Charlie Creek	10.1	0.3
Wilscot Creek	36.8	1.1
Star Creek	11.1	0.3
Stanley Creek	17.1	0.5
Minor tributaries & immediate drainage -	51.3	0.6
Totals	587.4	16.3

2. Outlet -

Toccoa River	600.8**	16.3

C. Precipitation***:

1. Year of sampling: 194.3 centimeters.
2. Mean annual: 122.9 centimeters.

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† Hall, 1974.
* For limits of accuracy, see Working Paper No. 175, "...Survey Methods, 1973-1976".
** Total drainage area is the sum of the subdrainage areas plus the area of the lake.
*** See Working Paper No. 175.

III. LAKE WATER QUALITY SUMMARY

Blue Ridge Lake was sampled three times during the open-water season of 1973 by means of a pontoon-equipped Huey helicopter. Each time, samples for physical and chemical parameters were collected from three stations on the lake and from a number of depths at each station (see map, page v). During each visit, a single depth-integrated (4.6 m to surface) sample was composited from the three stations for phytoplankton identification and enumeration; and during the first visit, a single 18.9-liter depth-integrated sample was composited for algal assays. Also each time, a depth-integrated sample was collected from each of the stations for chlorophyll a analysis. The maximum depths sampled were 43.0 meters at station 1, 32.3 meters at station 2, and 33.2 meters at station 3.

The results obtained are presented in full in Appendix D and are summarized in the following table.

A. SUMMARY OF PHYSICAL AND CHEMICAL CHARACTERISTICS FOR BLUE RIDGE LAKE
STORET CODE 1316

PARAMETER	1ST SAMPLING (6/27/73) 3 SITES RANGE	MEAN	MEDIAN	2ND SAMPLING (9/15/73) 3 SITES RANGE	MEAN	MEDIAN	3RD SAMPLING (11/12/73) 3 SITES RANGE	MEAN	MEDIAN
TEMP (C)	13.6 - 26.8	19.3	16.7	19.0 - 25.7	22.1	21.5	12.4 - 16.7	15.3	15.6
DISS OXY (MG/L)	5.3 - 10.3	7.5	7.3	0.0 - 7.8	5.1	4.8	7.6 - 8.8	8.0	8.0
CNDCTVY (MCROMO)	50. - 50.	50.	50.	14. - 31.	16.	14.	15. - 16.	16.	16.
PH (STAND UNITS)	6.1 - 7.3	6.5	6.3	5.5 - 7.3	5.9	5.7	6.1 - 6.4	6.2	6.2
TOT ALK (MG/L)	10. - 10.	10.	10.	10. - 14.	11.	11.	10. - 10.	10.	10.
TOT P (MG/L)	0.009 - 0.027	0.014	0.014	0.004 - 0.036	0.010	0.006	0.008 - 0.022	0.011	0.009
ORTHO P (MG/L)	0.001 - 0.007	0.003	0.003	0.003 - 0.010	0.005	0.004	0.003 - 0.007	0.004	0.004
NO2+NO3 (MG/L)	.040 - 0.120	0.081	0.080	0.020 - 0.080	0.038	0.030	0.030 - 0.040	0.033	0.030
AMMONIA (MG/L)	0.007 - 0.180	0.081	0.080	0.040 - 0.170	0.066	0.060	0.050 - 0.090	0.062	0.060
KJEL N (MG/L)	0.200 - 0.600	0.336	0.400	0.0 - 0.900	0.274	0.200	0.200 - 0.200	0.200	0.200
INORG N (MG/L)	0.047 - 0.400	0.162	0.160	0.060 - 0.250	0.104	0.090	0.080 - 0.130	0.095	0.090
TOTAL N (MG/L)	0.240 - 0.650	0.417	0.450	0.220 - 0.930	0.327	0.235	0.230 - 0.240	0.233	0.230
CHLRPYL A (UG/L)	1.- - 5.2	3.1	2.4	3.8 - 5.3	4.6	4.8	0.6 - 1.9	1.5	1.9
SECCHI (METERS)	3.3 - 3.4	3.3	3.4	2.6 - 2.8	2.7	2.7	1.9 - 2.4	2.1	1.9

B. Biological characteristics:

1. Phytoplankton -

Sampling Date	Dominant Genera	Algal units per ml
06/27/73	1. Asterionella	376
	2. Tabellaria	229
	3. Cosmarium	64
	4. Peridinium	37
	5. Flagellates	37
	Other genera	9
	Total	752
09/15/73	1. Tabellaria	1,769
	2. Flagellates	136
	3. Blue-green filaments	27
	Other genera	1
	Total	1,933
11/12/73	1. Cyclotella	48
	2. Centric diatoms	48
	3. Microcystis	19
	4. Anabaena	10
	5. Melosira	10
	Other genera	9
	Total	144

2. Chlorophyll a -

Sampling Date	Station Number	Chlorophyll a (μg/l)
06/27/73	01	5.2
	02	1.8
	03	2.4
09/15/73	01	5.3
	02	4.8
	03	3.8
11/12/73	01	0.6
	02	1.9
	03	1.9

C. Limiting Nutrient Study:

1. Autoclaved, filtered, and nutrient spiked -

Spike (mg/l)	Ortho P Conc. (mg/l)	Inorganic N Conc. (mg/l)	Maximum yield (mg/l-dry wt.)
Control	0.004	0.055	0.1
0.010 P	0.014	0.055	0.1
0.020 P	0.024	0.055	0.3
0.050 P	0.054	0.055	0.1
0.025 P + 0.5 N	0.029	0.555	4.4
0.050 P + 1.0 N	0.054	1.055	12.6
1.0 N	0.004	1.055	0.1

2. Filtered and nutrient spiked -

Spike (mg/l)	Ortho P Conc. (mg/l)	Inorganic N Conc. (mg/l)	Maximum yield (mg/l-dry wt.)
Control	0.003	0.041	0.1
0.010 P	0.013	0.041	0.2
0.020 P	0.023	0.041	0.2
0.050 P	0.053	0.041	0.2
0.025 P + 0.5 N	0.028	0.541	5.0
0.050 P + 1.0 N	0.053	1.041	15.0
1.0 N	0.003	1.041	0.1

2. Discussion -

The control yields of the assay alga, Selenastrum capricornutum, indicate that the potential primary productivity was low at the time the sample was collected. Although a nitrogen loss occurred after the sample was collected, the sample was still phosphorus limited (the inorganic nitrogen to orthophosphorus ratio was slightly less than 14/1). Consequently, when a phosphorus spike of 0.010 mg/l was added, the sample was shifted from phosphorus to nitrogen limited. An increase in yield, therefore, did not occur until nitrogen was added in combination with phosphorus. Productivity in this situation could be decreased by reducing the phosphorus concentration.

The lake data indicate phosphorus limitation at all sampling times; i.e., the mean inorganic nitrogen to orthophosphorus ratios were 21/1 or greater on all occasions.

IV. NUTRIENT LOADINGS
(See Appendix E for data)

For the determination of nutrient loadings, the Georgia National Guard collected monthly near-surface grab samples from each of the tributary sites indicated on the map (page v), except for the high runoff months of January and February when two samples were collected. Sampling was begun in March, 1973, and was completed in February, 1974.

Through an interagency agreement, stream flow estimates for the year of sampling and a "normalized" or average year were provided by the Georgia District Office of the U.S. Geological Survey for the tributary sites nearest the lake.

In this report, nutrient loads for sampled tributaries were determined by using a modification of a U.S. Geological Survey computer program for calculating stream loadings*. Nutrient loads shown are those measured minus point-source loads, if any.

Nutrient loads for unsampled "minor tributaries and immediate drainage" ("ZZ" of U.S.G.S.) were estimated by using the mean of the nutrient loads, in $kg/km^2/year$, at stations A-1, D-1, and E-1 and multiplying the means by the ZZ area in km^2.

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* See Working Paper No. 175.

A. Waste Sources*:

1. Known municipal - None

2. Known industrial -

Name	Treatment	Mean Flow (mgd)	Receiving Water
Chattahoochee Natl. Fish Hatchery	unknown	unknown	Rock Creek to Toccoa River

* Anonymous, 1972.

B. Annual Total Phosphorus Loading - Average Year:

1. Inputs -

Source	kg P/ yr	% of total
a. Tributaries (non-point load) -		
Toccoa River	9,745	79.9
Charlie Creek	155	1.3
Wilscot Creek	980	8.1
Star Creek	200	1.6
Stanley Creek	150	1.2
b. Minor tributaries & immediate drainage (non-point load) -	735	6.0
c. Known municipal - None	-	-
d. Septic tanks - Unknown	-	-
e. Known industrial -		
Chattahoochee National Fish Hatchery	unknown	-
f. Direct precipitation* -	235	1.9
Total	12,200	100.0

2. Outputs -

Lake outlet - Toccoa River 7,810

3. Net annual P accumulation - 4,390 kg.

* See Working Paper No. 175.

C. Annual Total Nitrogen Loading - Average Year:

1. Inputs -

Source	kg N/ yr	% of total
a. Tributaries (non-point load) -		
Toccoa River	284,400	78.3
Charlie Creek	6,595	1.8
Wilscot Creek	15,045	4.2
Star Creek	7,000	1.9
Stanley Creek	6,870	1.9
b. Minor tributaries & immediate drainage (non-point load) -	28,830	7.9
c. Known municipal - None	-	-
d. Septic tanks - Unknown	-	-
e. Known industrial -		
Chattahoochee National Fish Hatchery	unknown	-
f. Direct precipitation* -	14,510	4.0
Total	363,250	100.0

2. Outputs -

Lake outlet - Toccoa River 181,025

3. Net annual N accumulation - 182,225 kg.

* See Working Paper No. 175.

D. Mean Annual Non-point Nutrient Export by Subdrainage Area:

Tributary	kg P/km^2/yr	kg N/km^2/yr
Toccoa River	21	617
Charlie Creek	15	653
Wilscot Creek	27	409
Star Creek	18	631
Stanley Creek	9	402

E. Yearly Loading Rates:

In the following table, the existing phosphorus loading rates are compared to those proposed by Vollenweider (Vollenweider and Dillon, 1974). Essentially, his "dangerous" rate is the rate at which the receiving water would become eutrophic or remain eutrophic; his "permissible" rate is that which would result in the receiving water remaining oligotrophic or becoming oligotrophic if morphometry permitted. A mesotrophic rate would be considered one between "dangerous" and "permissible".

Note that Vollenweider's model may not be applicable to water bodies with short hydraulic retention times.

	Total Phosphorus		Total Nitrogen	
	Total	Accumulated	Total	Accumulated
grams/m^2/yr	0.91	0.33	27.0	13.6

Vollenweider loading rates for phosphorus (g/m^2/yr) based on mean depth and mean hydraulic retention time of Blue Ridge Lake:

"Dangerous" (eutrophic rate)	1.16
"Permissible" (oligotrophic rate)	0.58

V. LITERATURE REVIEWED

Anonymous, 1972. Georgia municipal and industrial wastewater treatment facilities associated with reservoirs. GA Dept. of Nat. Resources, Atlanta.

Anonymous, 1973. Water quality investigation of the Tennessee River basin in Georgia. GA Dept. of Nat. Resources, Atlanta.

Hall, Edward T., 1974. Personal communication (lake morphometry). GA Dept. of Nat. Resources, Atlanta.

Vollenweider, R. A., and P. J. Dillon, 1974. The application of the phosphorus loading concept to eutrophication research. Natl. Res. Council of Canada Publ. No. 13690, Canada Centre for Inland Waters, Burlington, Ontario.

VII. APPENDICES

APPENDIX A

CONVERSION FACTORS

CONVERSION FACTORS

Hectares x 2.471 = acres

Meters x 3.281 = feet

Cubic meters x 8.107×10^{-4} = acre feet

Square kilometers x 0.3861 = square miles

Cubic meters/sec x 35.315 = cubic feet/sec

Centimeters x 0.3937 = inches

Kilograms x 2.205 = pounds

Kilograms/square kilometer x 5.711 = lbs/square mile

APPENDIX B

LAKE RANKINGS

LAKES RANKED BY INDEX NOS.

RANK	LAKE CODE	LAKE NAME	INDEX NO
1	1316	BLUE RIDGE LAKE	524
2	1318	BURTON LAKE	523
3	1303	CHATUGE LAKE	424
4	1311	NOTTELY RESERVOIR	393
5	1310	LAKE SIDNEY LANIER	385
6	1304	CLARK HILL RESERVOIR	309
7	1301	ALLATOONA RESERVOIR	286
8	1302	BLACKSHEAR LAKE	284
9	1313	SINCLAIR LAKE	254
10	1312	LAKE SEMINOLE	253
11	1319	HIGH FALLS LAKE	192
12	1314	LAKE EUFAULA	184
13	1309	JACKSON LAKE	116
14	1317	LAKE HARDING	77

PERCENT OF LAKES WITH HIGHER VALUES (NUMBER OF LAKES WITH HIGHER VALUES)

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500-MEAN SEC	MEAN CHLORA	15-MIN DO	MEDIAN DISS P	INDEX NO
1301	ALLATOONA RESERVOIR	62 (8)	54 (7)	46 (6)	31 (4)	31 (0)	62 (7)	286
1302	BLACKSHEAR LAKE	38 (5)	31 (4)	0 (0)	100 (13)	100 (13)	15 (2)	284
1303	CHATUGE LAKE	85 (11)	85 (11)	92 (12)	69 (9)	31 (0)	62 (7)	424
1304	CLARK HILL RESERVOIR	54 (7)	62 (8)	62 (8)	54 (7)	31 (0)	46 (6)	309
1309	JACKSON LAKE	8 (1)	8 (1)	15 (2)	8 (1)	69 (9)	8 (1)	116
1310	LAKE SIDNEY LANIER	69 (9)	46 (6)	77 (10)	77 (10)	31 (0)	85 (10)	385
1311	NOTTELY RESERVOIR	77 (10)	69 (9)	69 (9)	62 (8)	31 (0)	85 (10)	393
1312	LAKE SEMINOLE	31 (4)	15 (2)	38 (5)	46 (6)	92 (12)	31 (4)	253
1313	SINCLAIR LAKE	46 (6)	38 (5)	54 (7)	23 (3)	31 (0)	62 (7)	254
1314	LAKE EUFAULA	15 (2)	23 (3)	31 (4)	15 (2)	77 (10)	23 (3)	184
1316	BLUE RIDGE LAKE	92 (12)	92 (12)	85 (11)	85 (11)	85 (11)	85 (10)	524
1317	LAKE HARDING	0 (0)	0 (0)	8 (1)	38 (5)	31 (0)	0 (0)	77
1318	BURTON LAKE	100 (13)	100 (13)	100 (13)	92 (12)	31 (0)	100 (13)	523
1319	HIGH FALLS LAKE	23 (3)	77 (10)	23 (3)	0 (0)	31 (0)	38 (5)	192

LAKE DATA TO BE USED IN RANKINGS

LAKE CODE	LAKE NAME	MEDIAN TOTAL P	MEDIAN INORG N	500- MEAN SEC	MEAN CHLORA	15- MIN DO	MEDIAN DISS P
1301	ALLATOONA RESERVOIR	0.020	0.150	443.167	7.489	14.900	0.005
1302	BLACKSHEAR LAKE	0.035	0.250	468.091	1.855	11.700	0.014
1303	CHATUGE LAKE	0.014	0.110	382.778	6.339	14.900	0.005
1304	CLARK HILL RESERVOIR	0.024	0.150	439.250	6.715	14.900	0.007
1309	JACKSON LAKE	0.094	0.530	461.385	14.577	14.800	0.027
1310	LAKE SIDNEY LANIER	0.016	0.180	396.417	5.431	14.900	0.004
1311	NOTTELY RESERVOIR	0.015	0.130	405.667	6.656	14.900	0.004
1312	LAKE SEMINOLE	0.040	0.405	456.133	6.760	11.800	0.010
1313	SINCLAIR LAKE	0.028	0.230	440.667	8.006	14.900	0.005
1314	LAKE EUFAULA	0.048	0.345	457.667	9.083	14.400	0.011
1316	BLUE RIDGE LAKE	0.010	0.105	394.889	3.078	13.000	0.004
1317	LAKE HARDING	0.114	0.640	467.538	7.438	14.900	0.045
1318	BURTON LAKE	0.007	0.100	363.889	2.733	14.900	0.003
1319	HIGH FALLS LAKE	0.047	0.115	459.444	15.075	14.900	0.009

APPENDIX C

TRIBUTARY FLOW DATA

TRIBUTARY FLOW INFORMATION FOR GEORGIA 12/2/75

LAKE CODE 1316 BLUE RIDGE LAKE

TOTAL DRAINAGE AREA OF LAKE(SQ KM) 600.9

NORMALIZED FLOWS(CMS)

TRIBUTARY	SUB-DRAINAGE AREA(SQ KM)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MEAN
1316A1	10.1	0.34	0.42	0.48	0.45	0.37	0.28	0.23	0.20	0.14	0.14	0.17	0.25	0.29
1316B1	600.9	12.18	10.11	11.24	14.92	16.93	17.78	17.39	20.30	22.09	21.15	16.79	13.90	16.26
1316B2	461.0	16.11	19.26	21.18	20.67	16.71	12.32	11.27	9.29	7.36	7.08	8.16	12.60	13.47
1316C1	36.8	1.25	1.56	1.67	1.56	1.27	0.99	0.88	0.71	0.57	0.54	0.65	0.96	1.05
1316D1	11.1	0.40	0.48	0.51	0.51	0.40	0.31	0.25	0.23	0.17	0.17	0.20	0.28	0.32
1316E1	17.1	0.59	0.74	0.79	0.76	0.59	0.45	0.40	0.34	0.25	0.25	0.31	0.45	0.49
1316ZZ	51.3	0.57	1.08	0.74	0.65	0.68	0.62	0.57	0.51	0.34	0.14	0.45	0.51	0.57

SUMMARY

TOTAL DRAINAGE AREA OF LAKE = 600.9
SUM OF SUB-DRAINAGE AREAS = 587.4

TOTAL FLOW IN = 194.79
TOTAL FLOW OUT = 194.79

NOTE *** LAKE AREA=5.2 SQ MI. NOT INCLUDED IN SUM OF SUB-DRAINAGE AREAS

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
1316A1	3	73	0.68	10	0.51				
	4	73	0.62	8	0.76				
	5	73	0.74	11	0.65				
	6	73	0.65	13	0.65				
	7	73	0.34	12	0.28				
	8	73	0.25	3	0.28				
	9	73	0.20	15	0.25				
	10	73	0.17	12	0.17				
	11	73	0.23	12	0.11				
	12	73	0.45	11	0.31				
	1	74	0.71	14	0.62	28	0.65		
	2	74	0.76	11	0.65	25	0.65		
1316B1	3	73	25.91	10	21.35				
	4	73	27.10	8	23.79				
	5	73	38.51	11	45.31				
	6	73	34.91	13	31.52				
	7	73	18.07	12	24.18				
	8	73	28.49	3	20.95				
	9	73	25.34	15	14.22				
	10	73	32.28	12	34.55				
	11	73	21.52	12	21.97				
	12	73	13.71	11	17.81				
	1	74	22.17	14	10.79	28	47.57		
	2	74	28.12	11	22.82	25	26.84		

TRIBUTARY FLOW INFORMATION FOR GEORGIA 12/2/75

LAKE CODE 1316 BLUE RIDGE LAKE

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
1316B2	3	73	29.73	10	22.48				
	4	73	28.66	8	34.83				
	5	73	33.84	11	29.45				
	6	73	29.39	13	28.88				
	7	73	17.05	12	14.81				
	8	73	11.52	3	12.32				
	9	73	10.08	15	12.66				
	10	73	8.01	12	7.76				
	11	73	10.70	12	5.78				
	12	73	22.23	11	15.12				
	1	74	33.41	14	29.17	28	30.58		
	2	74	34.26	11	28.88	25	29.17		
1316C1	3	73	2.35	10	1.76				
	4	73	2.12	8	2.58				
	5	73	2.55	11	2.21				
	6	73	2.32	13	2.29				
	7	73	1.33	12	1.16				
	8	73	0.88	3	0.93				
	9	73	0.76	15	0.96				
	10	73	0.62	12	0.59				
	11	73	0.85	12	0.45				
	12	73	1.70	11	1.16				
	1	74	2.58	14	2.27	28	2.35		
	2	74	2.78	11	2.35	25	2.35		
1316D1	3	73	0.71	10	0.54				
	4	73	0.71	8	0.85				
	5	73	0.79	11	0.68				
	6	73	0.74	13	0.74				
	7	73	0.37	12	0.31				
	8	73	0.28	3	0.31				
	9	73	0.23	15	0.28				
	10	73	0.20	12	0.20				
	11	73	0.25	12	0.14				
	12	73	0.51	11	0.34				
	1	74	0.82	14	0.71	28	0.76		
	2	74	0.85	11	0.71	25	0.74		
1316E1	3	73	1.10	10	0.82				
	4	73	1.05	8	1.27				
	5	73	1.19	11	1.05				
	6	73	1.08	13	1.05				
	7	73	0.59	12	0.51				
	8	73	0.42	3	0.45				
	9	73	0.34	15	0.42				
	10	73	0.28	12	0.28				
	11	73	0.40	12	0.23				
	12	73	0.79	11	0.54				
	1	74	1.22	14	1.08	28	1.10		
	2	74	1.30	11	1.10	25	1.10		

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TRIBUTARY FLOW INFORMATION FOR GEORGIA 12/2/75

LAKE CODE 1316 BLUE RIDGE LAKE

MEAN MONTHLY FLOWS AND DAILY FLOWS(CMS)

TRIBUTARY	MONTH	YEAR	MEAN FLOW	DAY	FLOW	DAY	FLOW	DAY	FLOW
1316ZZ	3	73	1.02						
	4	73	0.88						
	5	73	1.36						
	6	73	1.47						
	7	73	0.85						
	8	73	0.62						
	9	73	0.45						
	10	73	0.20						
	11	73	0.59						
	12	73	0.91						
	1	74	1.16						
	2	74	1.93						

APPENDIX D

PHYSICAL and CHEMICAL DATA

STORET RETRIEVAL DATE 75/12/02

131601
34 52 52.0 084 16 47.0
BLUE RIDGE LAKE
13 GEORGIA

11EPALES
3

2111202
0145 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/27	11 00	0000	26.7		120	50K	6.90	10K	0.100	0.600	0.050	0.003
	11 00	0006	26.5	8.2		50K	7.10	10K	0.050	0.400	0.050	0.003
	11 00	0015	22.4	10.2		50K	7.30	10K	0.070	0.500	0.060	0.005
	11 00	0030	18.3	7.6		50K	6.50	10K	0.060	0.500	0.050	0.004
	11 00	0050	16.7	6.8		50K	6.10	10K	0.060	0.400	0.060	0.007
	11 00	0075	15.6	7.3		50K	6.10	10K	0.080	0.300	0.100	0.004
	11 00	0100	15.0	7.0		50K	6.10	10K	0.080	0.300	0.110	0.004
	11 00	0120	14.6	7.1		50K	6.10	10K	0.080	0.300	0.120	0.004
	11 00	0141	13.6	5.3		50K	6.10	10	0.180	0.400	0.120	0.003
73/09/15	12 00	0000	25.3	7.8	109	15	7.30	10	0.060	0.[illegible]00	0.040	0.010
	12 00	0025	24.8	6.4		15	6.80	10	0.040	0.200	0.020	0.007
	12 00	0035	22.2	4.8		15	6.30	10	0.050	0.200K	0.020	0.004
	12 00	0050	21.5	4.6		15	6.10	10K	0.050	0.000K	0.030	0.005
	12 00	0070	20.6	6.6		14	5.90	10	0.040	0.200K	0.030	0.005
	12 00	0090	20.0	4.4		15	5.70	10K	0.060	0.200K	0.040	0.004
	12 00	0115	19.0	2.0		16	5.70	11	0.080	0.200K	0.060	0.003
73/11/12	08 42	0000	15.6		75	16	6.40	10K	0.080	0.200	0.040	0.006
	08 42	0005	15.6	8.0		16	6.40	10K	0.060	0.200K	0.030	0.005
	08 42	0015	15.6	7.6		16	6.40	10	0.060	0.200K	0.030	0.003
	08 42	0030	15.6	7.8		16	6.30	10	0.060	0.200K	0.030	0.003
	08 42	0060	15.6	7.6		16	6.30	10	0.060	0.200K	0.030	0.006
	08 42	0090	13.5	7.6		15	6.20	10	0.090	0.200K	0.040	0.005

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

131601
34 52 52.0 084 16 47.0
BLUE RIDGE LAKE
13 GEORGIA

11EPALES 2111202
3 0145 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/27	11 00	0000	0.012	5.2
	11 00	0006	0.016	
	11 00	0015	0.027	
	11 00	0030	0.014	
	11 00	0050	0.010	
	11 00	0075	0.013	
	11 00	0100	0.013	
	11 00	0120	0.014	
	11 00	0141	0.014	
73/09/15	12 00	0000	0.013	5.3
	12 00	0025	0.008	
	12 00	0035	0.007	
	12 00	0050	0.006	
	12 00	0070	0.005	
	12 00	0090	0.006	
	12 00	0115	0.011	
73/11/12	08 42	0000	0.016	3.6
	08 42	0005	0.009	
	08 42	0015	0.008	
	08 42	0030	0.008	
	08 42	0060	0.010	
	08 42	0090	0.017	

STORET RETRIEVAL DATE 75/12/02

131602
34 51 50.0 084 15 22.0
BLUE RIDGE LAKE
13 GEORGIA

11EPALES
3

2111202
0110 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/27	11 50	0000	26.8		132	50K	7.00	10K	0.080	0.200K	0.050	0.003
	11 50	0006	26.4	7.9		50K	7.10	10	0.060	0.200K	0.040	0.002
	11 50	0015	22.3	10.3		50K	6.70	10K	0.090	0.400	0.080	0.003
	11 50	0030	18.5	7.3		50K	6.40	10K	0.080	0.400	0.080	0.003
	11 50	0050	16.7	7.0		50K	6.20	10K	0.070	0.400	0.070	0.002
	11 50	0070	15.7	6.8		50K	6.10	10K	0.007	0.400	0.080	0.003
	11 50	0090	15.2	6.9		50K	6.10	10K	0.090	0.500	0.110	0.003
	11 50	0106	14.8	6.7		50K	6.10	10K	0.110	0.400	0.100	0.003
73/09/15	12 55	0000	25.6	7.8	106	14	6.00	10K	0.040	0.200K	0.020	0.007
	12 55	0025	24.5	7.0		14	5.80	10K	0.040	0.200K	0.020	0.004
	12 55	0035	22.5	4.7		14	5.70	11	0.050	0.200K	0.030	0.004
	12 65	0050	21.4	3.6		14	5.70	12	0.060	0.200K	0.030	0.003
	12 55	0065	20.8	3.6		14	5.60	12	0.060	0.200K	0.030	0.006
	12 55	0080	19.8	3.2		14	5.60	12	0.080	0.200K	0.040	0.005
73/11/12	09 11	0000	16.7		96	15	6.20	10K	0.060	0.200K	0.040	0.005
	09 11	0005	15.6	8.2		16	6.20	10K	0.050	0.200K	0.040	0.003
	09 11	0017	15.6	8.0		16	6.20	10K	0.050	0.200K	0.030	0.004
	09 11	0030	15.6	8.0		15	6.20	10K	0.050	0.200K	0.030	0.004
	09 11	0055	15.6	8.4		15	6.20	10K	0.050	0.200K	0.030	0.005

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

131602
34 51 50.0 084 15 22.0
BLUE RIDGE LAKE
13 GEORGIA

11EPALES 2111202
3 0110 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/27	11 50	0000	0.009	1.8
	11 50	0006	0.010	
	11 50	0015	0.012	
	11 50	0030	0.013	
	11 50	0050	0.010	
	11 50	0070	0.013	
	11 50	0090	0.016	
	11 50	0106	0.016	
73/09/15	12 55	0000	0.006	4.8
	12 55	0025	0.006	
	12 55	0035	0.005	
	12 55	0050	0.004	
	12 55	0065	0.008	
	12 55	0080	0.008	
73/11/12	09 11	0000	0.009	1.9
	09 11	0005	0.008	
	09 11	0017	0.008	
	09 11	0030	0.009	
	09 11	0055	0.010	

STORET RETRIEVAL DATE 75/12/02

131603
34 50 40.0 084 15 52.0
BLUE RIDGE LAKE
13 GEORGIA

11EPALES
3

2111202
0113 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00010 WATER TEMP CENT	00300 DO MG/L	00077 TRANSP SECCHI INCHES	00094 CNDUCTVY FIELD MICROMHO	00400 PH SU	00410 T ALK CACO3 MG/L	00610 NH3-N TOTAL MG/L	00625 TOT KJEL N MG/L	00630 NO2&NO3 N-TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P
73/06/27	12 30	0000	26.4		132	50K	7.00	10K	0.080	0.400	0.050	0.007
	12 30	0006	26.3	7.9		50K	7.10	10K	0.060	0.200K	0.040	0.002
	12 30	0015	22.4	9.0		50K	6.50	10K	0.080	0.200K	0.060	0.003
	12 30	0030	18.4	7.6		50K	6.40	10K	0.060	0.200K	0.100	0.003
	12 30	0050	16.7	7.2		50K	6.30	10K	0.070	0.200K	0.100	0.003
	12 30	0070	15.6	7.4		50K	6.20	10K	0.070	0.200K	0.100	0.003
	12 30	0090	15.2	7.4		50K	6.20	10K	0.100	0.200K	0.120	0.003
	12 30	0109	14.7	6.2		50K	6.20	10	0.150	0.200K	0.120	0.003
73/09/15	13 35	0000	25.7	7.8	102	14	6.00	13	0.060	0.900	0.030	0.008
	13 35	0025	23.9	5.2		14	5.70	11	0.040	0.200K	0.030	0.005
	13 35	0040	22.0	7.6		14	5.60	11	0.070	0.200K	0.040	0.004
	13 35	0055	21.0	4.6		19	5.60	12	0.090	0.200	0.050	0.004
	13 35	0075	20.2	5.4		22	5.50	12	0.110	0.300	0.080	0.004
	13 35	0097	19.9	0.0		31	5.60	14	0.170	0.400	0.080	0.004
73/11/12	09 40	0000	15.4		74	16	6.30	10K	0.060	0.200K	0.030	0.004
	09 40	0005	15.4	8.2		16	6.10	10K	0.060	0.200K	0.030	0.004
	09 40	0015	15.4	8.2		16	6.10	10K	0.060	0.200K	0.030	0.004
	09 40	0030	15.3	8.0		16	6.10	10K	0.050	0.200K	0.030	0.007
	09 40	0061	12.4	8.8		15	6.10	10K	0.090	0.200K	0.040	0.004

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

131603
34 50 40.0 084 15 52.0
BLUE RIDGE LAKE
13 GEORGIA

11EPALES 21112u2
3 0113 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00665 PHOS-TOT MG/L P	32217 CHLRPHYL A UG/L
73/06/27	12 30	0000	0.014	2.4
	12 30	0006	0.010	
	12 30	0015	0.015	
	12 30	0030	0.019	
	12 30	0050	0.019	
	12 30	0070	0.017	
	12 30	0090	0.015	
	12 30	0109	0.014	
73/09/15	13 35	0000	0.007	3.8
	13 35	0025	0.005	
	13 35	0040	0.006	
	13 35	0055	0.006	
	13 35	0075	0.031	
	13 35	0097	0.036	
73/11/12	09 40	0000	0.012	1.9
	09 40	0005	0.009	
	09 40	0015	0.011	
	09 40	0030	0.014	
	09 40	0061	0.022	

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APPENDIX E

TRIBUTARY DATA

STORET RETRIEVAL DATE 75/12/02

1316A1 1316A1
34 50 30.0 084 18 00.0
CHARLIE CREEK
13239 7.5 BLUE RIDGE
T/BLUE RIDGE LAKE
BRDG ON RD 2 MI S OFF OF LOOKOUT MT HWY
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/10	11 00		0.091	1.300	0.044	0.008	0.020
73/04/08	09 40		0.115	0.790	0.138	0.005K	0.020
73/05/11	11 19		0.054	1.700	0.160	0.005K	0.025
73/06/13	10 00		0.084	0.510	0.273	0.005K	0.010
73/07/12	10 40		0.094	2.730	0.370	0.005K	0.020
73/08/03	10 20		0.088	0.100K	0.036	0.005K	0.020
73/09/15	09 02		0.080	0.220	0.038	0.005K	0.015
73/10/12	10 14		0.075	0.100K	0.018	0.011	0.015
73/11/12	11 45		0.069	0.100K	0.023	0.005K	0.005K
73/12/11	11 03		0.100	0.500	0.012	0.008	0.008
74/01/14	11 36		0.124	0.100	0.015	0.005	0.020
74/01/28	11 30		0.072	1.200	0.050	0.005	0.010
74/02/11	10 55		0.096	0.100	0.015	0.005K	0.015
74/02/25	11 25		0.080	0.100K	0.015	0.005K	0.050

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

131681 131681
34 53 00.0 084 17 00.0
TOCCOA RIVER
13 7.5 MINERAL BLUE
O/BLUE RIDGE LAKE
BLUE RIDGE DAM ON RD TO POWER STATION
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/10	14 00		0.100	0.600	0.042	0.006	0.010
73/04/08	12 37		0.100	0.620	0.088	0.008	0.010
73/05/11	13 20		0.075	0.520	0.022	0.005K	0.005K
73/06/13	11 52		0.063	0.100K	0.040	0.005K	0.005K
73/07/12	13 00		0.091	0.320	0.150	0.005K	0.020
73/08/03	12 07		0.078	0.130	0.036	0.005K	0.010
73/09/15	10 35		0.040	0.240	0.160	0.005K	0.005K
73/10/12	11 54		0.027	0.150	0.067	0.010	0.015
73/11/12	13 45		0.037	0.150	0.042	0.005K	0.005
73/12/11	12 40		0.080	0.100K	0.028	0.008	0.020
74/01/14	13 14		0.080	0.100	0.050	0.005K	0.060
74/01/28	13 20		0.068	0.200	0.045		0.007
74/02/11	12 50		0.092	1.000	0.040	0.005	0.020
74/02/25	13 16		0.080	0.100K	0.015	0.005K	0.035

K VALUE KNOWN TO BE
LESS THAN INDICATED

35

STORET RETRIEVAL DATE 75/12/02

131682 131682
34 47 00.0 084 15 30.0
TOCCOA RIVER
13 7.5 BLUE RIDGE
I/BLUE RIDGE LAKE
SHALLOWFORD BRDG 1 MI SW OFWILSCOT
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/10	12 04		0.105	1.950	0.094	0.006	0.022
73/04/08	10 16		0.115	1.600	0.093	0.009	0.040
73/05/11	12 06		0.054	1.470	0.009	0.005K	0.025
73/06/13	10 41		0.067	0.200	0.044	0.006	0.025
73/07/12	11 26		0.024	0.320	0.033	0.005K	0.020
73/08/03	11 00		0.056	0.180	0.044	0.005K	0.025
73/09/15	09 38		0.115	0.100K	0.029	0.005K	0.050
73/10/12	10 53		0.020	0.150	0.016	0.008	0.010
73/11/12	12 20		0.028	0.100K	0.019	0.005K	0.005K
73/12/11	11 43		0.092	0.600	0.020	0.008	0.010
74/01/14	12 10		0.096	1.975	0.045	0.005K	0.022
74/01/28	12 28		0.068	0.200	0.020		0.030
74/02/11	11 20		0.076	0.100	0.015	0.005K	0.020
74/02/25	12 00		0.064	0.100K	0.010	0.005K	0.035

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

1316C1 1316C1
34 50 00.0 084 14 00.0
WILSCOT CREEK
13 7.5 WILSCOT
T/BLUE RIDGE LAKE
BRDG ON RD 1.7 MI SW OF PADENA
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/10	13 06		0.060	0.700	0.044	0.007	0.020
73/04/08	11 00		0.110	1.600	0.290	0.010	0.030
73/05/11	12 40		0.042	1.470	0.010	0.005K	0.030
73/06/13	11 15		0.058	0.100K	0.014	0.007	0.020
73/07/12	12 18		0.028	0.350	0.088	0.006	0.025
73/08/03	11 30		0.054	0.100K	0.014	0.005K	0.025
73/09/15	10 05		0.056	0.380	0.029	0.006	0.030
73/10/12	11 20		0.025	0.100K	0.013	0.011	0.015
73/11/12	12 55		0.026	0.100K	0.013	0.005K	0.010
73/12/11	12 10		0.084	0.300	0.008	0.012	0.012
74/01/14	12 40		0.116	0.100	0.020	0.005	0.025
74/01/28	12 50		0.096	0.300	0.015	0.005	0.050
74/02/11	12 00		0.092	0.200	0.025	0.010	0.045
74/02/25	12 30		0.068	0.100K	0.010	0.005K	0.100

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

131601 131601
34 52 00.0 084 14 00.0
STAR CREEK
13 7.5 WILSCOT
T/BLUE RIDGE LAKE
BRDG ON ST RT 60 1 MI SE OF MORGANTON
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/10	13 29		0.032	0.560	0.017	0.006	0.020
73/04/08	11 15		0.075	1.200	0.100	0.009	0.020
73/05/11	12 57		0.015	1.320	0.006	0.005K	0.020
73/06/13	11 35		0.029	3.100	0.074	0.010	0.020
73/07/12	12 37		0.019	0.100K	0.022	0.006	0.015
73/08/03	11 45		0.032	0.100K	0.010	0.005K	0.020
73/09/15	10 21		0.025	0.110	0.013	0.005K	0.015
73/10/12	11 36		0.014	0.700	0.036	0.013	0.025
73/11/12	13 11		0.019	0.700	0.023	0.012	
73/12/11	12 25		0.036	0.500K	0.005K	0.012	0.012
74/01/14	12 53		0.084	0.100	0.015	0.005	0.020
74/01/28	13 05		0.076	0.100	0.010	0.005	0.050
74/02/11	12 10		0.068	0.950	0.065	0.005	0.020
74/02/25	12 45		0.044	0.100K	0.010	0.005K	0.015

K VALUE KNOWN TO BE
LESS THAN INDICATED

STORET RETRIEVAL DATE 75/12/02

1316E1 1316E1
34 47 00.0 084 16 00.0
STANLEY CREEK
13 7.5 BLUE RIDGE
T/BLUE RIDGE LAKE
BRDG ON RD ABOV CONFLU WITH TOCCOA RIVER
11EPALES 2111204
4 0000 FEET DEPTH

DATE FROM TO	TIME OF DAY	DEPTH FEET	00630 NO2&NO3 N-TOTAL MG/L	00625 TOT KJEL N MG/L	00610 NH3-N TOTAL MG/L	00671 PHOS-DIS ORTHO MG/L P	00665 PHOS-TOT MG/L P
73/03/10	11 46		0.015	1.200	0.057	0.005K	0.010
73/04/08	10 05		0.032	1.200	0.063	0.007	0.010
73/05/11	11 44		0.010K	1.470	0.006	0.005K	0.010
73/06/13	10 25		0.010K	0.130	0.015	0.005K	0.005K
73/07/12	11 00		0.010K	0.100K	0.014	0.005K	0.010
73/08/03	10 40		0.018	0.100K	0.019	0.009	0.010
73/09/15	09 22		0.016	0.420	0.014	0.005K	0.010
73/10/12	10 30		0.010K	0.100K	0.020	0.008	0.015
73/11/12	11 59		0.010K	0.100K	0.015	0.005K	0.005K
73/12/11	11 23		0.012	1.000	0.012	0.008	0.008
74/01/14	11 55		0.036	0.100K	0.015	0.005K	0.010
74/01/28	11 45		0.030	0.100K	0.010	0.010	0.010
74/02/11	11 10		0.028	0.200	0.070	0.010	0.010
74/02/25	11 44		0.020	0.100K	0.010	0.005K	0.020

K VALUE KNOWN TO BE
LESS THAN INDICATED